1. (As Amended) A method of creating a contact lens from a mat of polymer material formed of strands having diameters ranging down to tens of nanometers or less using the process of electrospinning, comprising the steps of:

a. providing a power supply for having an alternating output voltage adjustable over a range extending from 4,000 to 12,000 volts, the power supply providing its output to a first and second terminal,

b. providing a conductive target having a surface on which to form a base surface (a comea contact surface) of the contact lens, a needle,

c. electrically coupling the target to the power supply first terminal and the needle to the power supply second terminal to permit the power supply to provide and electric field between the target and the needle, and positioning the needle above an electrospinning cone to be formed at a predetermined distance characterized to aid in the electrospinnng process of fiber deposition,

[[a]]d. dissolving a polymer solute in a suitable solvent

[[b]]e. delivering said solute and solvent solution to [[a]] the needle tip

~~e. applying an electric field between said needle and a target~~

[[d]]f. adjusting the output voltage of the power supply to [[increasing]] increase [[an]] the electric field between said needle and target until a Taylor cone is formed, but not of a magnitude to result in a corona discharge or coronal effect e. providing a means to vary the source to target distance, and

g. moving the need in patterns over a region of the target exceeding the perimeter of the contact lens to be formed depositing the eletrospun material as a mat,

h. alternating the polarity of the output voltage of the power supply between the target and the needle to prevent charge buildup on electrospun fibers and to permit the deposit of electrospun fibers at precise intervals to enable the construction of a precise electrospun mat.of polymer fibers.

2. (Original) A method as in claim 1 where the needle is solid

3. (Original) A method as in claim 1 where the needle is hollow

4. (Original) A method as in claim 1 where the needle is a Holey fiber

5. (Original) A method as in claim 1 where the needle is a Micro Electro Mechanical Structure device.

6. (New) The method of claim 1 wherein the step of moving the need in patterns over a region of the target that exceeds the perimeter of the contact lens to be formed further comprises the step of:

controling the potential during the electrospinning process to maintain a mean fibril distance of approximately 200 nm while solvent is present.

7 (New) The method of claim 1 further comprising the step of adjusting the electric field between the target and the needle, the pressure applied to the needle and the material temperature to control flow rate of the material onto the mat being formed on the target, the ambient temperature and the distance traveled across the lens region on the target and the gap between the needle and the cone to adjust the diameter of the fibers being deposited, the contact lens having an optical transparency that is adjusted by controlling the diameter of the collagen fibers being deposited.

8.(New) The method of claim 1 further comprising the step of modifying step a for providing a power supply for having an alternating output voltage adjustable over a range extending from 4,000 to 12,000 volts to be a step of providing a high voltage dc power supply providing its output to a first and second terminal and connecting the output terminals to the power supply output through a swithing means for reversing the polarity of the output teminals in response to an operator command.

9.(New) The method of claim 1 further comprising the step of modifying step a for providing a power supply for having an alternating output voltage adjustable over a range extending from 4,000 to 12,000 volts to be a step of providing a high voltage ac power supply to output terminals, the power supply having an operator controlled output frequency.

10. (New) The method of claim 7 wherein the step of adjusting parameters such as the electric field between the target and the needle, the pressure applied to the needle and the material temperature to control flow rate of the material onto the mat being formed on the target, the ambient temperature and the distance traveled across the lens region on the target and the gap between the needle and the cone to adjust the diameter of the fibers being deposited is further characterized to control the parameters to obtain nano fibers having a diamater in the range of 60-100 nm to mimic the corneal stoma (biomimetic).

11. The method of claim 1 wherein step d. comprising the step of dissolving a polymer solute in a suitable solvent further comprises the step dissolving two or more polymers or fiber materials selected from the group comprising collagen, collagen - HEMA, Silicon hydrogel, Silicon - hydrogel - collagen, and cellulose, - HEMA.

12. The method of claim 1 wherein step g and subsequent steps are amended to permit the needel patterns to be completed over a region of the target characterized to form a predetermined perscriptive surface on the lens.

13. (New) A method of creating a contact lens from a mat of polymer material formed of strands having diameters ranging down to tens of nanometers or less using the process of electrospinning, comprising the steps of:

a. providing a power supply for having an alternating output voltage adjustable over a range extending from 4,000 to 12,000 volts, the power supply providing its output to a first and second terminal,

b. providing a conductive target having a surface on which to form a base surface (a comea contact surface) of the contact lens, a needle,

c. electrically coupling the target to the power supply first terminal and the needle to the power supply second terminal to permit the power supply to provide and electric field between the target and the needle, and positioning the needle above an electrospinning cone to be formed at a predetermined distance characterized to aid in the electrospinnng process of fiber deposition,

d. dissolving a polymer solute in a suitable solvent

e. delivering said solute and solvent solution to the needle tip

f. adjusting the output voltage of the power supply to increase the electric field between said needle and target until a Taylor cone is formed, but not of a magnitude to result in a corona discharge or coronal effect e. providing a means to vary the source to target distance, and

g. moving the need in patterns over a region of the target exceeding the perimeter of the contact lens to be formed and controling the potential during the electrospinning process to maintain a mean fibril distance of approximately 200 nm while solvent is present,

h. alternating the polarity of the output voltage of the power supply between the target and the needle to prevent charge buildup on electrospun fibers and to permit the deposit of electrospun fibers at precise intervals to enable the construction of a precise electrospun mat.of polymer fibers.

14. (New) A method of creating a contact lens from a mat of polymer material formed of strands having diameters ranging down to tens of nanometers or less using the process of electrospinning, comprising the steps of:

a. providing a power supply for having an alternating output voltage adjustable over a range extending from 4,000 to 12,000 volts, the power supply providing its output to a first and second terminal,

b. providing a conductive target having a surface on which to form a base surface (a comea contact surface) of the contact lens, a needle,

c. electrically coupling the target to the power supply first terminal and the needle to the power supply second terminal to permit the power supply to provide and electric field between the target and the needle, and positioning the needle above an electrospinning cone to be formed at a predetermined distance characterized to aid in the electrospinnng process of fiber deposition,

d. dissolving a polymer solute in a suitable solvent

e. delivering said solute and solvent solution to the needle tip

f. adjusting the output voltage of the power supply to increase the electric field between said needle and target until a Taylor cone is formed, but not of a magnitude to

result in a corona discharge or coronal effect e. providing a means to vary the source to target distance, and

g. moving the need in patterns over a region of the target exceeding the perimeter of the contact lens to be formed and controling the potential during the electrospinning process to maintain a mean fibril distance of approximately 200 nm while solvent is present,

h. alternating the polarity of the output voltage of the power supply between the target and the needle to prevent charge buildup on electrospun fibers and to permit the deposit of electrospun fibers at precise intervals to enable the construction of a precise electrospun mat.of polymer fibers.

i. adjusting the electric field between the target and the needle, the pressure applied to the needle and the material temperature to control flow rate of the material onto the mat being formed on the target, the ambient temperature and the distance traveled across the lens region on the target and the gap between the needle and the cone to adjust the diameter of the fibers being deposited, the contact lens having an optical transparency that is adjusted by controlling the diameter of the collagen fibers being deposited.